

WHAT IS CLAIMED IS:

1. A composition for the treatment, prevention or management of a condition in primates, especially humans comprising a phenolic antioxidant-chromium complex.
2. The composition of claim 1 wherein the condition is Type 2 diabetes or non-insulin dependent diabetes mellitus.
3. The composition of claim 1 wherein the condition is glucose intolerance.
4. The composition of claim 1 comprising a phenolic antioxidant having no pro-oxidation activity.
5. The composition of claim 1 wherein the phenolic antioxidant is of plant origin.
6. The composition of claim 1 wherein the chromium content in the complex is 0.01 to 20% of the complex.
7. The composition of claim 6 wherein the chromium content in the complex is from 0.02 to 10%.
8. The composition of claim 1 wherein the chromium is trivalent in nature.
9. The composition of claim 1 wherein the phenolic antioxidants include low molecular weight hydrolyzable tannins having a molecular weight below 2,000.

10. The composition of claim 9 wherein the phenolic antioxidant is obtained from the genus *Phyllanthus*, *Terminalia*, *Gardenia*, *Geranium*, *Erodium* or *Tamarix*.

11. The composition of claim 9 wherein the hydrolyzable tannins are obtained from *Phyllanthus emblica* (syn. *Emblica officinalis*), *Phyllanthus amarus*, *Phyllanthus flexuosus*, other *Phyllanthus* species, *Terminalia bellerica* and other *Terminalia* species, *Erodium pelagonium*, *Geranium thumbergi*, *Tamarix aphylla* or another *Tamarix* species.

12. The composition of claim 11 wherein the condition in primates, especially humans is Type 2 diabetes or glucose intolerance.

13. The composition of claim 11 wherein the hydrolyzable tannins are obtained from the *Phyllanthus emblica* fruit.

14. A composition of claim 1 comprising chromium complex(s) of oxygenated dibenzo- $\alpha$ -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids for the treatment, prevention or management of Type 2 diabetes or glucose tolerance in primates, especially humans.

15. The composition of claim 14 wherein the oxygenated dibenzo- $\alpha$ -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids are obtained from purified Shilajit.

16. A composition of claim 1 comprising chromium complex(s) of the antioxidant fractions of *Phyllanthus emblica* and/or purified Shilajit, for the treatment, prevention or management of Type 2 diabetes or glucose intolerance.

17. The composition of claim 1 wherein the phenolic antioxidant-chromium complex is prepared by reacting a trivalent chromium salt with a phenolic antioxidant(s).

18. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with a phenolic antioxidant(s) in an aqueous system.

19. The composition of claim 18 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with low molecular weight tannins having a molecular weight below 2,000.

20. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is prepared by reacting chromium chloride, acetate or formate with oxygenated dibenzo- $\alpha$ -pyrone (DBP) or its conjugates, including dimers and oligomers and fulvic acids of purified Shilajit in an aqueous system.

21. The composition of claim 17 wherein the phenolic antioxidant-chromium complex is obtained by spray, freeze, tray or vacuum drying.

22. A formulation of the composition of claim 1 wherein the phenolic antioxidant-chromium complex is combined with a pharmaceutically or nutritionally acceptable excipient.

23. A formulation of claim 22 wherein the phenolic antioxidant-chromium complex is combined with a pharmaceutically or nutritionally acceptable excipient for the treatment of Type 2 diabetes or glucose intolerance in primates, especially humans.

24. The composition of claim 1 which also includes an added active ingredient.

25. The composition of claim 24 wherein said added active ingredient is an antioxidant, vitamin, carnitine, carnosine, N-acetyl-L-cysteine, biotin, polycosanol, aminoguanidine, a fatty acid or plant extract, or mixtures thereof.

26. The composition of claim 7 wherein the chromium content in the complex is 1 to 8% of the complex.

27. The composition of claim 19 wherein the molecular weight of said tannins is below 1,000.

28. A method of treating, preventing or managing a condition in primates, especially humans which comprises treating said primate, especially human with the composition of claim 1.

29. A method of claim 28 wherein said condition is Type 2 diabetes or glucose intolerance.

30. A formulation of claim 22 wherein the phenolic antioxidant-chromium complex having 10 to 1,000  $\mu\text{g}$  of chromium content is combined with a pharmaceutically or nutritionally acceptable excipient to improve insulin sensitivity, reduce blood glucose, glycated hemoglobin, reduce total cholesterol and low density lipids in primates, especially humans.

31. The composition of claim 1 wherein the phenolic antioxidant-chromium complex is prepared by dry blending a trivalent chromium salt or a complex with a phenolic antioxidant(s).

32. The composition of claim 31 wherein the phenolic antioxidant-chromium complex is prepared by dry blending chromium chloride, acetate or formate, picolinate, nicotinate or polynicotinate with a phenolic antioxidant(s).

33. The composition of claim 31 wherein the phenolic antioxidant-chromium complex is prepared by dry blending chromium chloride, acetate, formate, nicotinate, polynicotinate or picolinate with oxygenated dibenzo- $\alpha$ -pyrone (DBP) or its conjugates, including dimmers and oligomers and fulvic acids of purified Shilajit.

34. A formulation of claim 31 wherein the phenolic antioxidant-chromium blend having 10 to 1,000  $\mu\text{g}$  of chromium is combined with a pharmaceutically or nutritionally acceptable excipient to improve Type 2 diabetes, glucose intolerance, insulin sensitivity, reduce blood glucose, glycated hemoglobin, reduce total cholesterol and low density lipid in primates, especially humans.

35. A pharmaceutical or nutritional preparation of claim 34 is administered once or twice a day to a primate, especially human.